

What is claimed is:

1. A laser element comprising:

a heat sink which is made of one of copper and copper alloy, and has a fixation surface having a predetermined shape; and

a nitride-based semiconductor laser bar which has at least three light-emission points formed on a substrate, and is bonded to said heat sink with a brazing material containing gold and one of tin and silicon as main components, by pressing the nitride-based semiconductor laser bar toward said fixation surface with a tool having a shape corresponding to the predetermined shape of the fixation surface during a brazing operation.

2. A method for producing a laser element, comprising the steps of:

(a) placing a brazing material between a nitride-based semiconductor laser bar and a fixation surface of a heat sink, where the brazing material contains gold and one of tin and silicon as main components, the nitride-based semiconductor laser bar has at least three light-emission points formed on a substrate, the heat sink is made of one of copper and copper alloy, and the fixation surface has a predetermined shape; and

(b) fixing said nitride-based semiconductor

laser bar to said fixation surface by melting and solidifying said brazing material while pressing the nitride-based semiconductor laser bar toward the heat sink with a tool having a shape corresponding to said predetermined shape of the fixation surface.

3. A laser module comprising:

an optical fiber;

a laser element which includes,

a heat sink which is made of one of copper and copper alloy, and has a fixation surface having a predetermined shape, and

a nitride-based semiconductor laser bar which has at least three light-emission points formed on a substrate, emits laser beams from the at least three light-emission points, and is bonded to said heat sink with a brazing material containing gold and one of tin and silicon as main components, by pressing the nitride-based semiconductor laser bar toward said fixation surface with a tool having a shape corresponding to the predetermined shape of the fixation surface during a brazing operation; and

an optical condensing system which optically multiplexes said laser beams, and makes the optically multiplexed laser beams enter said optical fiber.